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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,770	02/20/2004	Hui Liang Yuan	03-0042	6658

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FREUDENBERG-NOK GENERAL PARTNERSHIP
LEGAL DEPARTMENT
47690 EAST ANCHOR COURT
PLYMOUTH, MI 48170-2455

EXAMINER	
ZACHARIA, RAMSEY E	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/783,770	YUAN ET AL.	
	Examiner	Art Unit	
	Ramsey Zacharia	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

4a) Of the above claim(s) *1-21 and 48-51* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-47 and 52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/04/05; 9/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II in the reply filed on 27 October 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (see MPEP § 818.03(a)) and claims 1-21 and 48-51 have been withdrawn.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 23, 34, 42, and 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The phrase "at least 90 weight percent fluoroterpolymer" in subsection (1) renders claims 23, 34, and 42 indefinite because it is unclear: (a) if the terpolymer is the same as the fluoroelastomer, and (b) to what the "at least 90 weight percent" refers.

6. Claim 52 is rendered indefinite because it is unclear whether the term "said surface" in subsection (b) refers to the surface of the component, the first surface of the bead, or the second surface of the bead.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 22, 24, 30, 32, 41, 43, 46, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al. (U.S. Patent 5,082,725).

Saito et al. teach a material for a gasket (column 1, lines 5-7). The material comprises a steel plate coated first with a primer then a gum composition followed by curing (column 3, line 64-column 4, line 13). Both the primer and the gum compositions may comprise the same rubber (i.e. NBR) with the gum composition further comprising 5-40 parts microcapsules or microballoons per 100 parts rubber (see Embodiments 5-8 in columns 5-6). The steel plate reads on a rigid carrier and the curing after application of both the primer and the gum composition, each containing the same rubber, will result in a cured continuous phase.

By their nature all gaskets with coatings containing microcapsules will meet the limitations of claims 30 and 46 since gaskets operate by interfacing one component to another via coplanar mechanical compression through the use of a mechanical fastener. Moreover, since the microcapsules can undergo expansion (see column 2, lines 47-59), a compressible foam is

formed which enables a compressive seal (without a compressive seal the gasket would not function).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 23, 25, 31, 33-40, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Patent 5,082,725) in view of Close (U.S. Patent 4,421,878).

Saito et al. teach all the limitations of claims 23, 25, 31, 33-35, 37-39, and 42, as outlined above, except for the use of the recited fluoroelastomer composition. However, Saito et al. do teach the use of an elastomer in both the primer and the coating as well as the presence of 0-5 parts wax per 100 parts rubber.

Close is directed to a fluoroelastomer composition that may be used to as a coating to provide chemical resistance to a variety of articles including gaskets (column 17, lines 7-22). In the embodiments of Examples 76 and 77, the composition comprises 100 parts Viton B, 15 parts Maglite Y, 15 parts MT Black, and 2 parts of a diamine curative (see Tables XI-XIII). Viton B, MT Black, and Maglite Y are taken to intrinsically meets the limitations in subsections (1), (2), and (4), respectively, of claim 23 since they are the same materials as used in the instant invention (see Examples 1-3 in instant specification).

One skilled in the art would be motivated to use the elastomer composition taught by Close as the elastomeric gum in the coating of Saito et al. to yield a gasket with improved chemical resistance.

Regarding the use of both MgO and ZnO in claim 40, Close recognizes the functional equivalence of oxides of magnesium and zinc (column 1, lines 45-47). As such, it would be obvious to use any combination of MgO and ZnO in place of MgO because it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. See MPEP 2144.06.

Regarding claims 35 and 40, the range of less than about 75 parts per 100 parts by weight of fluoroelastomer reads on a concentration of zero since zero is less than about 75.

Regarding claim 36, ferric oxide and titanium dioxide are known colorants. As such, it would be obvious to one skilled in the art to add these colorants to the coating composition for applications in which a specific color is required or desired. Moreover, since the coloring effect is directly related to the amount of colorant used, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of colorant.

Regarding claim 39, the limitations of this claim are met because the claim is directed to a gasket and the solvent is removed during the formation of the gasket.

11. Claims 22, 24, 26, 28, 30, 32, 41, and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inamura (U.S. Patent 6,517,084) in view of Saito et al. (U.S. Patent 5,082,725).

Inamura teaches a head gasket comprising a metal plate with a plurality of beads each of which results in presence of a recessed portion positioned at a location for compressively interfacing the gasket to a component (column 2, lines 44-55). The entire surface of the gasket may be coated with a resilient material, such as a fluorine rubber or NBR gum (column 4, lines 51-61).

Inamura does not teach that the resilient coating contains expandable microspheres.

Saito et al. teach a material for a gasket (column 1, lines 5-7). The material comprises a steel plate coated first with a primer then a gum composition followed by curing (column 3, line 64-column 4, line 13). Both the primer and the gum compositions may comprise the same rubber (i.e. NBR) with the gum composition further comprising 5-40 parts microballoons per 100 parts rubber (see Embodiments 5-8 in columns 5-6).

One skilled in the art would be motivated to use the coating of Saito et al. as the resilient coating of Inamura because the selection of a known material based on its suitability for its intended is *prima facie* obvious (see MPEP 2144.07). Inamura calls for a resilient coating that may be based on NBR rubber and Saito et al. discloses a resilient coating composition, used on gaskets, that is also based on NBR rubber.

12. Claims 23, 25, 27, 29, 31, 33-39, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inamura (U.S. Patent 6,517,084) in view of Saito et al. (U.S. Patent 5,082,725) as applied to claim 22 above, and further in view of Close (U.S. Patent 4,421,878).

Inamura taken in view of Saito et al. teach all the limitations of claims 23, 25, 27, 29, 31, and 33, as outlined above, except for the use of the recited fluoroelastomer composition.

However, Saito et al. do teach the use of an elastomer in both the primer and the coating as well as the presence of 0-5 parts wax per 100 parts rubber.

Close is directed to a fluoroelastomer composition that may be used to as a coating to provide chemical resistance to a variety of articles including gaskets (column 17, lines 7-22). In the embodiments of Examples 76 and 77, the composition comprises 100 parts Viton B, 15 parts Maglite Y, 15 parts MT Black, and 2 parts of a diamine curative (see Tables XI-XIII). Viton B, MT Black, and Maglite Y are taken to intrinsically meets the limitations in subsections (1), (2), and (4), respectively, of claim 23 since they are the same materials as used in the instant invention (see Examples 1-3 in instant specification).

One skilled in the art would be motivated to use the elastomer composition taught by Close as the elastomeric gum in the coating of Saito et al. to yield a gasket with improved chemical resistance.

Regarding the use of both MgO and ZnO in claim 40, Close recognizes the functional equivalence of oxides of magnesium and zinc (column 1, lines 45-47). As such, it would be obvious to use any combination of MgO and ZnO in place of MgO because it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. See MPEP 2144.06.

Regarding claims 35 and 40, the range of less than about 75 parts per 100 parts by weight of fluoroelastomer reads on a concentration of zero since zero is less than about 75.

Regarding claim 36, ferric oxide and titanium dioxide are known colorants. As such, it would be obvious to one skilled in the art to add these colorants to the coating composition for

applications in which a specific color is required or desired. Moreover, since the coloring effect is directly related to the amount of colorant used, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of colorant.

Regarding claim 39, the limitations of this claim are met because the claim is directed to a gasket and the solvent is removed during the formation of the gasket.

13. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Patent 5,082,725) in view of Schmucker et al. (U.S. Patent 6,349,945)

Saito et al. teach all the limitations of claim 52, as outlined above, except for the presence of a polymeric bead bonded to the metal surface.

Schmucker et al. disclose that an embossment or bead may be formed on a steel gasket to seal the gasket (column 1, lines 8-31). A suitable material for the bead is a polymer reinforced with 6 parts metallic oxides per 100 parts polymer (see table in column 7).

One skilled in the art would be motivated to form a polymeric bead on the steel gasket of Saito et al. to provide a tighter seal.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re

Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 34-40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17-21, 23, and 25 of copending Application No. 10/782,302. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 17-21, 23, and 25 of copending Application No. 10/782,302 fully encompass the invention of instant claims 34-40.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

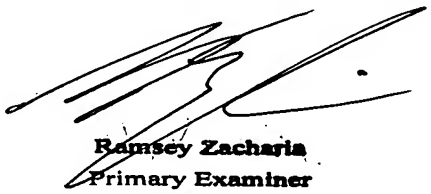
Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
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